

Patent Claims:

1. A process for producing a plurality of components (16),
5 in particular of small glass plates, comprising the steps of:

providing a substrate (10),

providing a carrier (12),

joining a first surface (10a) of the substrate (10)
to a first surface (12a) of the carrier (12),

10 machining the components (16) out of the substrate (10), with
the components (16) being held together by the carrier (12)
at least immediately after they have been machined out, and
detaching the components (16) from the carrier (12) in order
to separate the components (16).

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2. The process as claimed in claim 1, wherein the
components (16) are separated from one another laterally
during the machining-out step.

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3. The process as claimed in one of the preceding claims,
wherein a substrate (10) made from glass or a vitreous
material is used.

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4. The process as claimed in one of the preceding claims,
wherein the carrier (12) used is a carrier film.

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5. The process as claimed in one of the preceding claims,
wherein the step of machining out the components (16)
comprises removing the substrate material (10) from portions
of a second surface (10b) of the substrate (10), the second
surface being on the opposite side from the first surface
(10a), at least as far as the first surface (10a) of the
substrate (10).

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6. The process as claimed in one of the preceding claims,
wherein to machine out the components (16) the substrate
material (10) and the carrier material (12) are removed in

portions and in succession until a position between the first surface (12a) and a second surface (12b) of the carrier material (12) is reached, the second surface being on the opposite side to the first surface.

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7. The process as claimed in one of the preceding claims, wherein a multiplicity of laterally adjacent components (16) are machined out of the substrate (10) in one working step.

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8. The process as claimed in one of the preceding claims, wherein the step of machining out the components (16) is carried out by means of vibratory lapping.

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9. The process as claimed in one of the preceding claims, wherein the vibratory lapping is carried out using a plurality of hollow lapping punches (20).

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10. The process as claimed in one of the preceding claims, wherein lapping punches (20) with a cross section in the form of a continuous ring are used.

11. The process as claimed in one of the preceding claims, wherein the components (16) are machined out by means of blasting with a blasting material.

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12. The process as claimed in one of the preceding claims, wherein the second surface (10b) of the substrate (10) is structured.

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13. The process as claimed in one of the preceding claims, wherein the components (16) are detached from the carrier (12) by means of vacuum.

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14. The process as claimed in one of the preceding claims, wherein a solder agent (32) is applied.

15. The process as claimed in one of the preceding claims,

wherein the solder agent is printed on in structured form as a solder-agent layer (32).

16. The process as claimed in one of the preceding claims,
5 wherein a protective layer (14) is applied to the second surface (10b) of the substrate (10) or to the solder-agent layer.

17. The process as claimed in one of the preceding claims,
10 wherein the protective layer (14) is removed after the machining-out step and/or before the separation step.

18. The process as claimed in one of the preceding claims,
wherein at least some of the following steps are carried out,
15 in the following order:

- providing the substrate (10) and the carrier (12),
- then joining the substrate (10) to the carrier (12),
- then applying the solder-agent layer (32),
- then applying the protective layer (14),
- 20 - then fitting a mask for the structuring,
- then machining the components (16) out of the substrate,
- then removing the mask,
- then removing the protective layer (14),
- then releasing the bonding force of the carrier (12),
- 25 - then detaching the components (16) from the carrier (12).

19. An intermediate product in the form of a layer composite (8), in particular producible by the process as claimed in
30 one of the preceding claims, comprising a substrate (10), which has been divided into a multiplicity of laterally separated components (16), and a common (sheet-like) carrier (12), with the components (16) being releasably secured laterally adjacent to one another on the common carrier (12).

35 20. The intermediate product as claimed in claim 19, wherein a solder-agent layer (32) has been applied to the second

surface (10b) of the substrate and if appropriate beneath the protective layer (14), the solder-agent layer (32) being divided into a multiplicity of laterally separate portions, and each portion being assigned to a specific component (16).

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21. The intermediate product as claimed in one of the preceding claims, wherein the solder-agent layer (32) is printed on in structured form.

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22. The intermediate product as claimed in one of the preceding claims, wherein a first surface (10a) of the substrate (10) is joined to a first surface (12a) of the carrier (12), and the substrate (10) has a protective layer (14) on a second surface (10b), which is on the opposite side from the first surface (10a), and/or on the solder-agent layer.

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23. The intermediate product as claimed in claim 22, wherein the protective layer (14) is divided into a multiplicity of separate portions,

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each portion is assigned to a specific component, and the substrate defines a plane, the components and the portions of the protective layer (14) being machined so as to be flush transversely with respect to the plane.